

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

1 to 14. Cancelled.

15. (Currently amended): A method for non-contact determination of structural inhomogeneity of a sample of a substance structure, comprising:

- ~~— exposing the sample to an environment in which said liquid evaporates from a surface of the sample, resulting in a temperature change on the surface;~~  
obtaining an emissivity image of the sample of the substance structure;
- ~~— converting the obtained emissivity image into digital data;~~  
processing the data using gray level calibration curves to measure variation in a two-dimensional liquid distribution of the substance within said image to; and
- ~~— determining the structural inhomogeneity of the sample of the substance structure in accordance with the measured variation in the two-dimensional liquid distribution of the substance.~~

16. (Previously presented): A method as claimed in claim 15, wherein said structure is exposed to an environment in which a liquid evaporates from a surface of the structure, resulting in a temperature change on the surface, said using gray level calibration curves comprises generating one of the gray level calibration curves from a plurality of measured gray level values of an emissivity image of a reference structure with a known liquid content of the liquid within a selected range of ambient temperatures and relative humidity, said determining comprising determining an ambient relative humidity of the environment, said structural inhomogeneity being liquid content dependent.

17. (Previously presented): A method as claimed in claim 16 comprising recording the emissivity image of both the structure to be measured and the reference structure using an imaging radiometer.

18. (Previously presented): A method as claimed in claim 15 wherein the emissivity image of the structure to be measured is obtained from one side of the structure.

19. (Previously presented): A method as claimed in claim 15 wherein the emissivity image of the structure to be measured is obtained from opposed sides of the structure.

20. (Previously presented): A method as claimed in claim 19 wherein the emissivity image of the structure to be measured is recorded from opposed sides of the structure using a single imaging radiometer.

21. (Previously presented): A method as claimed in claim 19 wherein the emissivity image of the structure to be measured is recorded from opposed sides of the sample of the structure using a pair of imaging radiometers positioned at the opposed sides of the structure.

22. (Currently amended): A method for sorting wood and kiln drying same comprising:  
determining a two-dimensional moisture content distribution ofexposing a plurality of pieces of wood according to claim 16 and wherein to an environment in whichmoisture evaporates from a surface of the wood, resulting in a temperature change on the surface;  
~~obtaining at least one emissivity image of the surface;~~  
~~processing the image to obtaining a set of data representing a two-dimensional moisture content distribution in said plurality of pieces of wood;~~  
sorting the pieces of wood into batches having similar drying program needs according to said two-dimensional moisture distribution therein; and

drying the batches in a kiln drier according to said drying program determined for each individual batch.

23. (Original): A method as claimed in claim 22, wherein said drying program comprises a temperature and duration of drying depending on an evaluation of the liquid content within said two-dimensional moisture distribution.

24 to 31. Cancelled